

TENT COOPERATION TREA /

PCT

NOTIFICATION OF ELECTION  
(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

United States Patent and Trademark  
Office  
(Box PCT)  
Crystal Plaza 2  
Washington, DC 20231  
ÉTATS-UNIS D'AMÉRIQUE

in its capacity as elected Office

Date of mailing: 10 June 1999 (10.06.99)	
International application No.: PCT/JP98/05406	Applicant's or agent's file reference: PO62PCT96574
International filing date: 01 December 1998 (01.12.98)	Priority date: 01 December 1997 (01.12.97)
Applicant: KAKUGAWA, Shigeru et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International preliminary Examining Authority on:

09 April 1999 (09.04.99)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was

☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer:  J. Zahra Telephone No.: (41-22) 338.83.38
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## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference PO62PCT96574	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/JP98/05406	International filing date (day/month/year) 01 December 1998 (01.12.1998)	Priority date (day/month/year) 01 December 1997 (01.12.1997)
International Patent Classification (IPC) or national classification and IPC A61B 5/055, G01R 33/381		
Applicant HITACHI MEDICAL CORPORATION		

1.	This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2.	This REPORT consists of a total of <u>4</u> sheets, including this cover sheet.  <input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).  These annexes consist of a total of _____ sheets.
3.	This report contains indications relating to the following items:  I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input type="checkbox"/> Certain observations on the international application

Date of submission of the demand 09 April 1999 (09.04.1999)	Date of completion of this report 24 December 1999 (24.12.1999)
Name and mailing address of the IPEA/JP Japanese Patent Office, 4-3 Kasumigaseki 3-chome Chiyoda-ku, Tokyo 100-8915, Japan Facsimile No.	Authorized officer  Telephone No. (81-3) 3581 1101

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/JP98/05406

## I. Basis of the report

1. With regard to the **elements** of the international application:\*

- ☒ the international application as originally filed
- ☐ the description:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the claims:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, as amended (together with any statement under Article 19  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the drawings:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the sequence listing part of the description:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/fig \_\_\_\_\_

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/JP98/05406

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. Statement**

Novelty (N)	Claims	1-21	YES
	Claims		NO
Inventive step (IS)	Claims	7-9	YES
	Claims	1-6,10-21	NO
Industrial applicability (IA)	Claims	1-21	YES
	Claims		NO

**2. Citations and explanations****Claims 1-6 and 10-21**

Document 1 [JP, 9-187439, A (General Electric Co.) July 22, 1997 (22.07.97)] describes a magnet apparatus for MRI in which 2 groups of static magnetic field-generating sources are combined, and each magnetic field-generating source comprises 4 current-carrying means arranged essentially concentrically, or 4 current-carrying means and 1 shielded current-carrying means, or a strongly magnetic body that functions as a magnetic pole and at least 2 current-carrying means, or a strongly magnetic body that functions as a magnetic pole and at least 2 current-carrying means and 1 shielded current-carrying means, or 3 current-carrying means, or 3 current-carrying means and 1 shielded current-carrying means, and the forward and reverse current-carrying directions of the corresponding current-carrying means are alternately arranged in the magnetic field-generating sources.

Document 2 [JP, 9-153408, A (Hitachi Medical Corp.) June 10, 1997 (10.06.97)] describes an open vertical magnetic field type MRI apparatus that uses a magnet apparatus in which 2 groups of static magnetic field-generating sources are combined, and each static magnetic field-generating source comprises multiple current-carrying means arranged essentially concentrically.

The purpose of both the magnet apparatus for MRI described in document 1 and the MRI apparatus described in document 2 is to provide a uniform magnetic field for the performance of MRI imaging, and the use of the magnet apparatus for MRI described in document 1 in the open vertical magnetic field type MRI apparatus described in document 2 is obvious to persons skilled in the art.

**Claims 3, 4, and 10-21**

Document 3 [JP, 63-46704, A (Toshiba Corp.) February 27, 1988 (27.02.88)] describes a magnet apparatus for MRI in which 2 groups of static magnetic field-generating sources are combined, and each static magnetic field-generating source comprises a strongly magnetic body that functions as a magnetic pole and at least 2 current-carrying means or a strongly magnetic body that functions as a magnetic pole and at least 2 current-carrying means and 1 shielded current-

**Supplemental Box**

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of Box V (Citations and explanations):

carrying means, and the forward and reverse current-carrying directions of the corresponding current-carrying means are alternately arranged in the magnetic field-generating sources.

The purpose of the MRI magnet apparatus described in document 3 and the MRI apparatus described in document 2 is to provide a uniform magnetic field for the performance of MRI imaging, and the use of the MRI apparatus described in document 3 in the open vertical magnetic field type MRI apparatus described in document 2 is obvious to persons skilled in the art.

Claims 7-9

Document 4 [JP, 8-38453, A (General Electric Co.) February 13, 1996 (13.02.96) is a document that defines the general state of the art in this technical field, and it describes a magnet apparatus for MRI in which 2 groups of static magnetic field-generating sources comprising 3 current-carrying means are combined.

However, the fact that the absolute values of the induced magnetic forces generated by each of the current-carrying means within the static magnetic field-generating source are aligned in either rising order or falling order, and the fact that the absolute value of the induced magnetic force of the current-carrying means with the largest mean diameter among the current-carrying means is greater than the absolute values of the induced magnetic forces of the other current-carrying means are neither described nor implied in any of the documents cited in the international search report.

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/JP98/05406

<b>A. CLASSIFICATION OF SUBJECT MATTER</b> Int.Cl <sup>6</sup> A61B5/055, G01R33/381		
According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b> Minimum documentation searched (classification system followed by classification symbols) Int.Cl <sup>6</sup> A61B5/055, G01R33/20-33/64		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Jitsuyo Shinan Koho 1922-1996 Toroku Jitsuyo Shinan Koho 1994-1998 Kokai Jitsuyo Shinan Koho 1971-1998 Jitsuyo Shinan Toroku Koho 1996-1998		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y A	JP, 9-187439, A (General Electric Co.), 22 July, 1997 (22. 07. 97) & US, 5565831, A	1-6, 10-21 7-9
Y A	JP, 9-153408, A (Hitachi Medical Corp.), 10 June, 1997 (10. 06. 97) & WO, 97/20326, A1	1-6, 10-21 7-9
Y A	JP, 63-46704, A (Toshiba Corp.), 27 February, 1988 (27. 02. 88) (Family: none)	3-4, 10-21 1-2, 5-9
A	JP, 8-38453, A (General Electric Co.), 13 February, 1996 (13. 02. 96) & US, 5410287, A & EP, 676647, A1	1-21
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.		
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed	"I" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family	
Date of the actual completion of the international search 10 December, 1998 (10. 12. 98)		Date of mailing of the international search report 22 December, 1998 (22. 12. 98)
Name and mailing address of the ISA/ Japanese Patent Office		Authorized officer
Facsimile No.		Telephone No.